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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
09/848,411	05/04/2001	Daniel R. Jeske	Jeske 6-11/2925-0555P	7710	
7590	02/08/2005		EXAMINER		
Harnes, Dickey & Pierce, P.L.C. P.O. Box 8910 Reston, VA 20195		PERILLA, JASON M			
		ART UNIT		PAPER NUMBER	
		2634			

DATE MAILED: 02/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/848,411	JESKE ET AL.
	Examiner Jason M Perilla	Art Unit 2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 04 May 2001.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-24 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) 1,2 and 12-16 is/are allowed.
 6) Claim(s) 18 is/are rejected.
 7) Claim(s) 3-11,17 and 19-24 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 04 May 2001 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>11/26/03</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

1. Claims 1-24 are pending in the instant application.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on November 26, 2003 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

3. The drawings are objected to because the second sheet of the drawings contain graphs with legends that are too small to be clearly legible. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and

informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 3-11, 17, and 24 are objected to because of the following informalities:

Regarding claim 3, in line 2, "the sample variance estimates" should be replaced by –the at least two sample variance estimates— for consistency in the claim language, and, in lines 2-3, "the initial estimate" should be replaced by –the initial SINR estimate--.

Regarding claim 4, the claim is objected to because it creates an indefinite limitation. Claim 4 depends upon claim 3 which defines the "generating step" of the method claim, however, claim 4 provides for limitations which define the "generating step" of the method as well. The steps provided in claim 4 conflict with the steps provided in claim 3. The Examiner's assumption is that claim 4 is intended to be dependent upon claim 2 or claim 1, and the claim must be amended such that it provides only definite limitations.

Regarding claim 6, in line 4, "current smoothed sample" should be replaced by – the smoothed sample—for consistency in the claim language.

Regarding claim 7, the variable "r" is undefined, and the claim must be amended to include a definition of all variables.

Regarding claim 9, the claim is indefinite because one skilled in the art is unable to perform the claimed method of adding. The claim presents that the translating step translates the scaled SINR estimate by adding (-1/N). However, "adding (-1/N)" taken

alone is not definite. An addition operation may not be performed with only one value (-1/N).

Regarding claim 11, the claim is objected to for the same reasons as applied to claim 9 above.

Regarding claim 17, it is suggested by the Examiner that the claim should be dependent upon claim 16 rather than 15 because claim 15 provides the antecedent basis for "the weights". Further, it is suggested that the word "respectively" in line 2 is stricken because it has no meaning in the claim and may confuse the interpretation of the claim.

Regarding claim 24, in line 2, "the generating" should be replaced by – generating--, and, in line 8, "the generating" should be replaced by –generating--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claim 18 is rejected under 35 U.S.C. 102(e) as being anticipated by Buehrer et al (US 6614857; hereafter "Buehrer").

Regarding claim 18, Buehrer discloses a method of estimating a signal-to-interference+noise ratio (SINR), comprising: generating a first SINR or SNR estimate (γ_p) based on received pilot symbol samples (col. 4, lines 54-56); generating a second SINR estimate (γ_s) based on received data symbol samples (col. 4, lines 54-56); and combining the first and second SINR estimates to produce a composite SINR estimate (col. 4, line 50; equation 7). The generation of the SNR of the pilot signal and the SNR of the data signal is certain because the values are known by the method of Buehrer, and, as broadly as claimed, the combining result (δ) is disclosed in equation 7 as the division of the pilot SNR by the sum of the pilot SNR and the data SNR.

Allowable Subject Matter

7. Claims 1-2 and 12-16 are indicated to contain allowable subject matter in view of the prior art of record.
8. Claims 19-24 are objected to as being dependent upon a rejected base claim, but would be allowable in view of the prior art of record if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following prior art of record not relied upon above is cited to further show the state of the art with respect to the calculation of signal-to-noise ratios.

U.S. Pat. No. 5991273 to Abu-Dayya.

U.S. Pat. No. 618610 to Winn.

U.S. Pat. No. 6317456 to Sayeed.

U.S. Pat. No. 6393257 to Holtzman.

U.S. Pat. No. 6690944 to Lee et al.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M Perilla whose telephone number is (571) 272-3055. The examiner can normally be reached on M-F 8-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jason M. Perilla
January 25, 2005

jmp



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SUPERVISORY PATENT EXAMINE
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